

**AMENDMENTS TO THE CLAIMS**

1-2. (Canceled)

3. (Currently amended) An isolated polynucleotide which comprises a nucleotide sequence encoding a protein selected from the group consisting of:

(a) a protein which comprises an amino acid sequence represented by ~~any one of SEQ ID NOS: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178 and 180~~SEQ ID NO: 87; and

(b) a protein that activates NF- $\kappa$ B and consists of an amino acid sequence having at least one amino acid deletion, substitution or addition in an amino acid sequence represented by ~~any one of SEQ ID NOS: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73, 75, 77, 79, 81, 83, 85, 87, 89, 91, 93, 95, 97, 99, 101, 103, 105, 107, 109, 111, 113, 115, 117, 119, 121, 123, 125, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178 and 180~~SEQ ID NO: 87.

4. (Currently amended) An isolated polynucleotide comprising a polynucleotide sequence selected from the group consisting of:

(a) a polynucleotide sequence represented by ~~any one of SEQ ID NOS: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177 and 179~~SEQ ID NO: 88;

(b) a polynucleotide sequence encoding a protein that activates NF- $\kappa$ B and hybridizing under stringent conditions with a polynucleotide having a polynucleotide sequence complementary to the polynucleotide sequence of (a); and

(c) a polynucleotide sequence which encodes a protein that activates NF- $\kappa$ B and consists of a polynucleotide sequence having at least one nucleotide deletion, substitution or addition in a polynucleotide sequence represented by ~~any one of SEQ ID NOS: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177 and 179~~SEQ ID NO: 88.

5. (Currently amended) An isolated polynucleotide comprising a polynucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence represented by a coding region in ~~any one of SEQ ID NOS: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177 and 179~~SEQ ID NO: 88;

(b) a nucleotide sequence encoding a protein that activates NF- $\kappa$ B and hybridizing under stringent conditions with a polynucleotide having a polynucleotide sequence complementary to the polynucleotide sequence of (a); and

(c) a nucleotide sequence which encodes a protein that activates NF- $\kappa$ B and consists of a nucleotide sequence having at least one nucleotide deletion, substitution or addition in a nucleotide sequence represented by a coding region in ~~any one of SEQ ID NOS: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177 and 179~~SEQ ID NO: 88.

6. (Original) An isolated polynucleotide comprising a nucleotide sequence which encodes a protein that activates NF- $\kappa$ B and has at least 95% identity to the polynucleotide sequence according to claim 3 over the entire length thereof.

7. ((Original) An isolated polynucleotide comprising a nucleotide sequence which encodes a protein that activates NF- $\kappa$ B and has at least 95% identity to the polynucleotide sequence according to claim 4 or 5 over the entire length thereof.

8. (Canceled)

9. (Currently amended) A recombinant vector which comprises a polynucleotide according to any one of ~~claims 3 to 7~~claims 3 to 6.

10. (Currently amended) A gene ~~therapy~~therapy agent comprising the recombinant vector according to claim 9 as an active ingredient.

11.(Original) A transformed cell which comprises the recombinant vector according to claim 9.

12. (Canceled)

13. (Currently amended) A process for producing a protein comprising,

(a) culturing a transformed cell comprising the isolated polynucleotide according to any one of ~~claims 3 to 7~~claims 3 to 6 under conditions providing expression of the encoded protein; and

(b) recovering the protein from the culture product.

14. (Withdrawn-Currently amended) A process for diagnosing a disease or susceptibility to a disease related to expression or activity of the protein of ~~claim 1, 2 or 8~~SEQ ID NO:87 in a subject comprising:

- (a) determining the presence or absence of a mutation in the nucleotide sequence according to claim 3, 4 or 5 encoding said protein in the genome of said subject; and/or
- (b) analyzing the amount of expression of said protein in a sample derived from said subject.

15. (Withdrawn-Currently amended) A method for screening compounds in respect of activity to inhibit or promote NF- $\kappa$ B activation, which comprises the steps of:

- (a) providing a cell with a gene comprising a polynucleotide according to claim 3, 4 or 5 encoding a protein that activates NF- $\kappa$ B, and a component that provides a detectable signal associated with activation of NF- $\kappa$ B;
- (b) culturing a transformed cell under conditions, which permit the expression of the gene in the transformed cell;
- (c) contacting the transformed cell with one or more compounds;
- (d) measuring the detectable signal; and
- (e) isolating or identifying an activator compound and/or an inhibitor compound by measuring the detectable signal.

16. (Withdrawn-Currently amended) A process for producing a pharmaceutical composition, which comprises the steps of:

- (a) providing a cell with a gene comprising a polynucleotide according to claim 3, 4 or 5 encoding a protein that activates NF- $\kappa$ B, and a component capable of providing a detectable signal;
- (b) culturing a transformed cell under conditions, which permit the expression of the gene in the transformed cell;
- (c) contacting the transformed cell with one or more compounds;
- (d) measuring the detectable signal;
- (e) isolating or identifying an activator compound and/or an inhibitor compound by measuring the detectable signal; and
- (f) optimizing the isolated or identified compound as a pharmaceutical composition.

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Reply to Office Action of January 4, 2006

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17-45. (canceled)

46. (New) A recombinant vector which comprises a polynucleotide according to claim 7.

47. (New) A gene therapy agent comprising the recombinant vector according to claim 46 as an active ingredient.

48. (New) A transformed cell which comprises the recombinant vector according to claim 46.